

Midterm Practice Exam #1

Write your answers to the questions below on this sheet. You may **NOT** discuss with others or lookup any information.

1.) Write a call to a method named `blah` with the parameters 5 and 6.

2.) What is wrong with the following code, if anything?

```
public static int doSomething(int input) {  
    switch (input) {  
        case 1:  
            return 2;  
        case 2:  
            return 3;  
    }  
}
```

3.) What is wrong with the following code, if anything?

```
public static int[] qwerty(int[] input) {  
    return input[0];  
}
```

4.) What is the output of the following code?

```
int[] a = new int[]{5, 4, 3, 2};  
for (int x = 0; x < a.length - 1; x++) {  
    System.out.println(a[x] + 1);  
}
```

5.) Rewrite the code below to not use `&&` and `||`. The code you write should be equivalent. You may assume that variables `a` and `b` are of type `int`.

```
if (a > 2 && b < 1) {  
    x = 1;  
} else {  
    x = 2;  
}
```

6.) What is wrong with the following code, if anything?

```
public static void something(int x) {  
    int x = 27;  
    System.out.println("42");  
}
```

7.) Rewrite the code below to not use `&&` and `||`. The code you write should be equivalent. You may assume that variables `c` and `d` are of type `int`.

```
if (c <= 3 || d >= 7) {
    x = 3;
} else {
    x = 4;
}
```

8.) What does the following code print, assuming it is run in jGrasp with jGrasp's "Run" command?

```
public static void useX1(int x) {
    x = 5;
    System.out.println(x);
}
public static void useX2(int x) {
    useX1(x);
    System.out.println(x + 1);
    x = 8;
}
public static void main(String[] args) {
    int x = 42;
    useX2(x);
    System.out.println(x);
}
```

9.) What is wrong with the following code, if anything?

```
public static String p3(String x) {
    return x;
}
public static void main(String[] args) {
    p3(5);
}
```

10.) Convert the following for loop into a while loop.

```
for (int x = 0; x < 10; x++) {
    System.out.println(x);
}
```

11.) What is wrong with the following code, if anything?

```
public class Foo {
    private int x;
    public Foo(int y) {
        int x = y;
    }
    public int getX() {
        return x;
    }
}
```

12.) What is wrong with the following code, if anything?

```
public static void foo(int x) {  
    if (x == 8) {  
        System.out.println(x);  
    } else {  
        System.out.println(42);  
    }  
    return 12;  
}
```

13.) Assume a class named `Bar` is defined whose constructor takes a `long`, and that `long` is used to initialize an instance variable named `myLong`. With this in mind, write a memory diagram corresponding to the following code snippet:

```
Bar b1 = new Bar(7);  
Bar b2 = b1;  
b1 = new Bar(8);
```

14.) For each loop below, state the number of iterations each loop will perform. If the loop is an infinite loop, state "infinite".

- `for (int x = 0; x < 5; x++) { ... }`
- `for (int x = 0; x < 6; x += 2) { ... }`
- `for (int x = 5; x >= 0; x--) { ... }`
- `for (int x = 3; x > 10; x--) { ... }`
- `for (int x = 3; x >= 0; x) { ... }`